

IN THE CLAIMS

1-6 (Withdrawn)

7. (Currently amended) A method for manufacturing an SOI substrate, comprising:

forming a sacrificial blocking layer pattern on a silicon substrate, the sacrificial blocking layer pattern defining and covering an active region;

introducing first oxygen ions at a first energy and at a first dose into a surface of said silicon substrate ~~on which~~ using said sacrificial pattern ~~is formed as a mask~~, thereby forming a first oxygen-ion-injected region in said silicon substrate; and

introducing second oxygen ions at a second energy and a second dose, thereby forming a second oxygen-ion-injected region in an upper portion of the silicon substrate uncovered by said sacrificial blocking layer pattern, the second energy and the second dose each being less than the first energy and the first dose, respectively,

wherein said first and second oxygen-ion-injected regions forms a field region that surrounds and isolates the active region.

8. (Original) A method of manufacturing an SOI substrate as claimed in claim 7, wherein the first oxygen ion injected region is of a belt-shape or of a stepped bell shape.

9. (Currently Amended) A method of manufacturing an SOI substrate as claimed in claim 7, wherein said first oxygen ion injecting process is implemented with ~~32O2+~~ ionized oxygen, with an energy range of about 60-80KeV and with the first dose of about 1×10^{18} - $8 \times 10^{18} \text{ cm}^{-2}$.

10. (Currently Amended) A method of manufacturing an SOI substrate as claimed in claim 7, wherein said second oxygen ion injecting process is implemented with ~~32O2+~~ ionized oxygen, with an energy range of less than 20KeV and with the second dose of about 1×10^{18} - $8 \times 10^{18} \text{ cm}^{-2}$.

11. (Original) A method of manufacturing an SOI substrate as claimed in claim 7, further comprising:

removing said sacrificial blocking layer pattern; and

forming an insulating layer by oxidizing said first and second oxygen-ion-injected regions through a heat treatment of said substrate.

12. (Original) A method of manufacturing an SOI substrate as claimed in claim 11, wherein said heat treatment is implemented at a temperature range of about 1100-1300°C for about 2-7 hours using an oxidizing ambient.

13. (Original) A method of manufacturing an SOI substrate as claimed in claim 12, wherein said oxidizing atmosphere is a gas mixture including argon and oxygen.

14. (Original) A method of manufacturing an SOI substrate as claimed in claim 7, wherein said sacrificial blocking layer pattern is one selected from the group consisting of a photoresist pattern, a polyimide layer pattern and an SOG (spin-on-glass) layer pattern.

15. (Original) A method of manufacturing an SOI substrate as claimed in claim 7, wherein said sacrificial layer is formed to a predetermined thickness such that oxygen ions pass through said sacrificial blocking layer pattern during the introduction of said first oxygen ions, while oxygen ions could not pass through said sacrificial blocking layer pattern during the introduction of said second oxygen ions.

16. (Original) A method of manufacturing an SOI substrate as claimed in claim 7, wherein a thickness of said sacrificial layer is approximately 0.05-0.5µm.

17. (Original) A method of manufacturing an SOI substrate as claimed in claim 7, wherein an ion injecting angle is 0° during the introduction of said first and second oxygen ions.

18. (Original) A method of manufacturing an SOI substrate as claimed in claim 7, wherein the introduction of the first oxygen ions and the introduction of the second oxygen ions are sequential.

19. (New) A method of manufacturing an SOI substrate as claimed in claim 7, wherein the first oxygen-ion-injected region comprises a first portion and a second portion,

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the first portion formed below the active region and the second portion adjacent the first portion, and wherein the second portion is formed deeper than the first portion below the active region.
